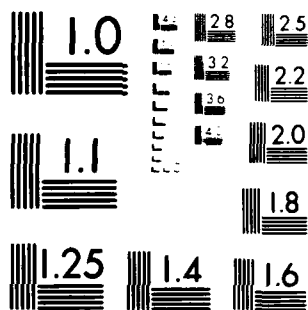


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Echo Ranging/Probe Alert, Channel Second Moments, Performance Prediction

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report summarizes work to predict communication system performance of the
Echo Ranging/Probe Alert Long Range Call-Up System.

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Echo Ranging/Probe Alert
Performance Analysis

Final Report

4 November 1982

JAYCOR Document No. J640-021-82-2242

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1.0 INTRODUCTION

The JAYCOR effort on this contract included technical analyses of acoustic communication equipment, system performance predictions, sea test design and data analysis, and proposing functional system design alternatives.

2.0 SUMMARY OF WORK PERFORMED

The JAYCOR effort focused on the analysis of the Echo Ranging/Probe Alert Long Range Call-Up system. A number of performance analyses were conducted and are documented in the reports listed in the bibliography. One major output of the effort is a computer implemented performance prediction model.

3.0 BIBLIOGRAPHY

1. An Analysis of Long Range Call-Up, the Echo Ranging Probe Alert System and the Echo Ranging Serial Tone System (U), S.L. Adams, J.L. Collins, JAYCOR Document No. J610-001-81-1219, 7 July 1981, CONFIDENTIAL.
2. Sea Test Considerations for the Echo Ranging/Probe Alert Long Range Call-Up (LRCU) (U), S.L. Adams and J.L. Collins, JAYCOR Report No. J610-007-81-2174, 20 August 1981, CONFIDENTIAL.
3. Degradation of the Echo Ranging Probe Alert (ER/PA) System Resulting from Frequency Spread (U), S.L. Adams, JAYCOR Report No. J610-006-81-2174, 20 August 1981, CONFIDENTIAL.
4. IACS Program Analysis and Echo Ranging/Probe Alert (ER/PA) Performance Analysis (U), S.L. Adams, JAYCOR Document No. J610-012-81-1219, 2 October 1981, CONFIDENTIAL.
5. IACS, LRCU, ER/PA Studies (U), S.L. Adams, J.L. Collins, M.H. Brill, JAYCOR Document No. J640-004-82-2242, 3 February 1982, CONFIDENTIAL.
6. Echo Ranging/Probe Alert (ER/PA) EDAC Study (U) M.H. Brill, S.L. Adams, JAYCOR Document No. J640-009-82-2242, 25 March 1982, CONFIDENTIAL.

7. Echo Ranging/Probe Alert (ER/PA) Performance Prediction Briefing (U), S.L. Adams, JAYCOR Document No. J640-013-82-2242, 6 May 1982, CONFIDENTIAL.
8. Intersymbol Interference Effects on ER/PA Long Range Call-Up System (U), J.D. Wolf, JAYCOR Document No. J640-015-82-2242, 25 May 1982, CONFIDENTIAL.
9. Technical Memorandum, Comments on Channel Simulation Techniques (U), S.L. Adams, JAYCOR Document No. J640-014-82-2242, 25 May 1982, UNCLASSIFIED.
10. Echo Ranging Probe Alert (ER/PA) Performance Prediction: Southern California (U), J.D. Wolf, JAYCOR Document No. J640-018-82-2242, 6 July 1982, CONFIDENTIAL.
11. Echo Ranging Probe Alert (ER/PA) Performance Prediction: Indian Ocean (U), J.D. Wolf, JAYCOR Document No. J640-017-82-2242, 7 July 1982, CONFIDENTIAL.
12. Communication Performance Prediction Model (U), J.D. Wolf, JAYCOR Document No. J640-020-82-2242, 16 August 1982, CONFIDENTIAL.
13. Probe Alert Design System Performance Estimates (U), J.L. Collins, JAYCOR Document No. J640-022-82-2242, 30 August 1982, UNCLASSIFIED.
14. Source Code for the Performance Prediction Model (U), J.D. Wolf, JAYCOR Document No. J640-023-82-2242, 9 September 1982, UNCLASSIFIED.
15. Monthly Progress and Status Reports (eleven and final report submitted) 18 September 1981 through 15 July 1982, S.L. Adams, UNCLASSIFIED.

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